A MISSISSIPPI TORNADO.

By S. C. EMERY, Local Forecast Official.

During the afternoon of March 28, 1902, a tornado of considerable violence passed through the northeast portion of Mississippi and northwest Alabama. Its course lay in a direct line from southwest to northeast, through the northern portion of Calhoun County, Miss., where it originated, diagonally across the counties of Pontotoc, Lee, and Itawamba, Miss., and Franklin County, Ala.

The total distance over which the storm traveled was about 118 miles, and its rate of progress averaged 33 miles an hour, the progressive motion being much greater toward the end than at the beginning. The width of the storm's track ranged from 300 to 400 yards. The cloud was generally reported as funnel shaped, and of a greenish yellow color. Hail fell at various places along the storm's track, and in several instances severe hail storms occurred a few miles to the north of the main storm. The hail stones were of unusual size and caused considerable damage in the way of killing sheep and young lambs, breaking windows, etc. Though a large number of dwellings were destroyed, only two people are reported killed.

The tornado formed about 1:30 p. m at a point 12 miles east of the village of Banner, Calhoun County, Miss. From there it moved northeast into Pontotoc County, passing about 1½ miles south of Randolph, a small village in the southwest corner of that county, reaching that place about 2 p. m. The cloud is described by an eye witness at Randolph as being funnel shaped and very black, and accompanied by remarkably severe thunder and lightning and heavy rain mixed with hail, some of the hail being "as large as an inkstand." South of of the storm the wind came from the southeast and on the north side from northeast. Everything within the path of the storm was destroyed, and quite a number of people injured. One child was taken into the air and deposited in a tree top, where it was afterwards found with all the clothing stripped from its body except its shoes.

From Randolph the storm continued its northeast course to the village of Algoma, which was almost entirely destroyed, then on past Plymouth which it skirted to the south, reaching Tupelo, Miss., at 2:40 p. m. The damage at Tupelo was considerable, 75 negro cabins being completely destroyed, and many substantial buildings wrecked. From Tupelo the storm continued through Itawamba County, Miss., and crossed the Alabama line at the southwest corner of Franklin County. The first town in Alabama lying within the storm track was Isbell, which it reached about 3:45 p. m. Two churches were blown down, several dwellings more or less wrecked, and a large number of negro cabins destroyed. A cedar tree about 12 inches in diameter, which stood a few feet from a warehouse, was twisted off about 5 feet from the ground, and hurled through the building to the opposite side of the street, while the building itself was practically uninjured. After leaving Isbell it appears to have either lost its tornadic character, or as is more probable, passed some distance above the surface. That the storm continued its northeast course is shown by the severe wind and hail storms that occurred at points in a direct line with the course over which it had hitherto moved, the most notable being at Newburg, Mount Hope, and Moulton.

The weather map of March 28 presented an oval shaped low, which extended from Texas to the central Mississippi Valley, with comparative highs over the Northwest and Southeast. The heavy and almost unprecedented downpours of rain that had prevailed for forty-eight hours over a greater portion of Tennessee, Alabama, and Mississippi were still in progress, and as a result many of the rivers were in a state of flood and a large section of country was covered more or less with water. Thunderstorms were generally reported in Texas, Louisiana, Arkansas, Tennessee, Missouri, and Illinois. The temperature over the southeast quadrant of the low averaged about 70°, while in the far Northwest it was below freezing.

At Memphis on the day in question rains continued all day, with frequent heavy downpours. Dense fog formed in the west at intervals during the afternoon, and as it passed through the Arkansas forest the tree tops only could be seen, the trunks being hidden by the white cloud bank. Two or three of these cloud banks, which seemed to roll onward, passed over the station, indicating the presence of cold currents of air coming from above.

The following extracts relative to the excessive precipitation in Mississippi and Tennessee on March 26–28 are of interest in connection with the foregoing, and are taken from the section reports of these States:

The almost continuous rainfall from March 26 to 28, inclusive, over the central and northern portions of Mississippi was one of the most excessive and destructive on record for the State. In the northern two-thirds of the State the average rainfall for the three days was 7.72 inches; at twelve stations within this area the rainfall exceeded 8 inches, and at two stations, Agricultural College and Ripley, the amounts of precipitation for the three days were 10.78 and 11.76 inches, respectively. The following 24-hour rainfalls, which are the heaviest on record at the stations named, occurred as follows: Jackson, 6.28 inches; Lake, 6.12; Ripley, 8.56; University, 6.06; Vicksburg, 7.12, and Walnut Grove, 8.28.

On March 28 occurred the most disastrous floods in middle Tennessee of which there is any record. For twenty-five stations, in as many different adjoining counties, there was an average rainfall of 5 inches in less than twenty-four hours; for four stations, in adjoining counties, there was an average of 8.19 inches within twenty-four hours. The heaviest rainfall occurred over a territory stretching from Hardin County northeastward, and including Wayne, Lawrence, Lewis, Maury, Giles, Marshall, Williamson, Rutherford, Bedford, Coffee, Warren, White, Smith, Cumberland, Roane, and Morgan counties. The amount of rainfall at Lewisburg on the 28th, 9 inches in twenty.three hours, is the greatest recorded amount that has fallen in that length of time in this State since the records of this service began, twenty years ago; it is probably unprecedented in the history of middle Tennessee. On the same day, at Lynnville, 8.45 inches fell, at Iron City, 7.70, and at Palmetto, 7.60, indicating that the four counties, Lawrence, Giles, Marshall, and Bedford, comprised the area of heaviest rainfall in the flood-stricken territory.

A correspondent at Burnsville. Miss., near the northeast corner of the State, and about forty miles northwest of the path of the tornado, describes the rainfall at that place as the most terrific ever experienced. He says:

The most remarkable feature of the storm was the falling of what we suppose to be waterspouts along the range of hills west of Yellow Creek Great holes were washed out of the sides of the hills, the dirt and rock, being carried for considerable distances. Saplings and stumps and even trees were washed out of the ground, and in some instances carried from 50 to 100 yards from where they stood. * * * Nothing of the kind has ever occurred in this country before, as the surface would surely reveal it if it had occurred within the last 100 years."

Results such as described above are often produced by the excessive rains, called "cloud bursts." The creeks and drainage courses that ordinarily suffice to carry off the rainfall, overflow, and new passages are cut by the swift flowing water. Waterspouts form only over the sea and could not have occurred at Burnsville as suggested by our correspondent.

The floods that resulted from this storm are described under the heading Rivers and Floods, in the March and April numbers of the REVIEW.—*H. H. K.*

RECENT PAPERS BEARING ON METEOROLOGY.

W. F. R. PHILLIPS, in charge of Library, etc.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the library of the Weather Bureau. The titles selected are of papers or other communications bearing on meteorology or cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled; it shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau: